Amendments To The Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-6. (Canceled)

7. (Currently Amended) A catalytic combustor system for a turbine engine comprising:

at least one pilot nozzle providing a first flow exiting the pilot nozzle;

at least one catalytic module providing a second flow exiting the ~~plurality of catalytic modules~~ at least one catalytic module, wherein at least a portion of the second flow is substantially adjacent to at least a portion of the first flow; and

at least one vortex forming device positioned substantially within the path of the second flow, wherein at least one vortex is formed in at least a portion of the second flow, wherein the at least one vortex forming device includes a plurality of surfaces, wherein a substantial majority of the surfaces are substantially oblique to the path of the second flow,

whereby at least a portion of the first flow mixes with at least a portion of the second flow.

8-20. (Canceled)

21. (Previously Presented) The system of claim 7 wherein the vortex forming device includes a substantially pyramidal portion, wherein the pyramidal portion is substantially centrally located.

22. (Previously Presented) The system of claim 21 wherein the pyramidal portion includes at least three oblique surfaces facing the second flow.

23. (Previously Presented) The system of claim 22 wherein at least one of the oblique surfaces has a concave surface.

24. (Previously Presented) The system of claim 21 wherein the pyramidal portion includes an arcuate base.

25. (Previously Presented) The system of claim 24 wherein the arcuate base includes at least three oblique surfaces facing the second flow.

26. (Previously Presented) The system of claim 21 wherein the pyramidal portion is substantially surrounded by a frame matching at least a portion of the area of the second flow.

27. (Previously Presented) The system of claim 7 wherein the vortex forming device is stationary.

28. (Previously Presented) A catalytic combustor system for a turbine engine comprising:

a pilot nozzle providing a pilot flow exiting the pilot nozzle;

a plurality of catalytic modules substantially peripherally surrounding the pilot nozzle, a module flow exiting each of the plurality of catalytic modules to collectively form a catalytic flow, wherein the catalytic flow substantially surrounds the first flow; and

a plurality of vortex forming devices, each vortex forming device being operatively positioned substantially within the path of each module flow such that at least one vortex is formed in at least a portion of each catalytic flow, whereby at least a portion of the pilot flow mixes with at least a portion of the catalytic flow,

wherein at least one of the plurality of vortex forming devices is different from the other vortex forming devices, whereby the different vortex generator forms a different vortex in the catalytic flow, whereby the combustion flame is shaped based on the vortex forming devices selected.

29. (Previously Presented) A catalytic combustor system for a turbine engine comprising:

a pilot nozzle providing a pilot flow exiting the pilot nozzle;

a first and second catalytic module operatively positioned proximate the pilot nozzle, a catalytic flow exiting each of the plurality of catalytic modules, wherein at least a portion of each catalytic flow is substantially adjacent to at least a portion of the first flow; and

a vortex forming device operatively positioned substantially within the path of the catalytic flow of the first catalytic module such that at least one vortex is formed therein, whereby at least a portion of the pilot flow mixes with at least a portion of the catalytic flow of the first module,

wherein the catalytic flow exiting the second catalytic module is substantially undisturbed, whereby the combustion flame is shaped by selective association of the vortex forming device with the catalytic modules.

30. (Previously Presented) A catalytic combustor system for a turbine engine comprising:

a pilot nozzle providing a first flow exiting the pilot nozzle;

a catalytic module providing a second flow exiting the catalytic module, wherein at least a portion of the second flow is substantially adjacent to at least a portion of the first flow, the catalytic module having an exit; and

a vortex forming device positioned substantially within the path of the second flow, wherein the vortex forming device is sized so at least about 50 percent and less than 100 percent of the second flow operatively engages the vortex forming device, wherein at least one vortex is formed in at least a portion of the second flow,

whereby at least a portion of the first flow mixes with at least a portion of the second flow.

31. (Previously Presented) A method for reducing CO emissions in a catalytic combustor for a turbine engine comprising the steps of:

providing a turbine engine having a catalytic combustor system, wherein the catalytic combustor includes at least one pilot nozzle and at least one catalytic module;

passing a first mixture of fuel and air through the at least one catalytic module such that a catalyst is introduced to the first mixture, the catalyst commencing a combustion reaction with the mixture, wherein the flow exiting each of the catalytic modules forms a catalytic flow stream having a catalytic temperature;

passing a second mixture of fuel and air through the pilot nozzle such that at least a portion of the second mixture is ignited, wherein the flow exiting the pilot nozzle forms a pilot flow stream having a pilot temperature, wherein the pilot temperature is greater than the catalytic temperature;

ducting the pilot flow stream and the catalytic flow stream away from the at least one pilot nozzle and the at least one catalytic module, wherein the pilot flow stream and the catalytic flow stream remain substantially unmixed; and

creating at least one first vortex in a first portion of the catalytic flow stream, wherein the first vortex causes at least a portion of the pilot flow stream to mix with at least a portion of the catalytic flow stream,

creating a second vortex in a second portion of the catalytic flow stream, wherein the second vortex is substantially different from the first vortex, wherein the second vortex causes at least a portion of the pilot flow stream to mix with at least a portion of the catalytic flow stream, whereby the different vortices are used to selectively shape the combustion flame,

whereby the hotter pilot flow stream accelerates the burnout reaction in the catalytic flow stream and further shortens the combustion flame length so as to reduce carbon monoxide emissions from the turbine engine.